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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/939,258 | 08/24/2001 | James M. Derderian | 4831US (01-0105) | 2185 |
| 24247 | 7590 | 11/23/2005 | EXAMINER | |
| TRASK BRITT P.O. BOX 2550 SALT LAKE CITY, UT 84110 | | | GRAYBILL, DAVID E | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2822 | |

DATE MAILED: 11/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 09/939,258 | Applicant(s) DERDERIAN, JAMES M. | |
| | Examiner David E. Graybill | Art Unit 2822 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-25,28-35,53 and 54 is/are pending in the application.
- 4a) Of the above claim(s) 9,24 and 29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-23,25,28,30-35,53 and 54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>one page</u> . | 6) <input type="checkbox"/> Other: _____ |

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 5-8, 10, 12-17 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pu (6593662) and LoBianco (6340846).

Pu is applied for the same reason it was applied to claims 1, 3, 5-8 and 12-17 in the previous Office action.

To further clarify, the silicon spacer of Pu is inherently electrically conductive.

In addition, Pu discloses that the spacer is, at least indirectly, secured to a contact pad of the at least one semiconductor device.

However, Pu does not appear to explicitly disclose that the spacer is resiliently compressible.

Notwithstanding, as cited, Pu discloses that the spacers are silicon. Furthermore, at column 6, line 46 to column 7, line 36; column 9, lines 25-49; and column 10, lines 4-16, LoBianco discloses that silicon spacers 50 and polyimide spacers 50 are alternatives and equivalents; therefore, it would have been obvious to substitute or combine the polyimide spacers of LoBianco for or with the silicon spacers of Pu. See *In re May* (CCPA) 136

USPQ 208 (It is our opinion that the substitution of Wille's type seal for the cement of Hallauer in Figure 1 would be obvious to persons of ordinary skill in the art from the disclosures of these references, merely involving an obvious selection between known alternatives in the art and the application of routine technical skills.); In re Cornish (CCPA) 125 USPQ 413; In re Soucy (CCPA) 153 USPQ 816; Sabel et al. v. The Wickes Corporation et al. (DC SC) 175 USPQ 3; Ex parte Seiko Koko Kabushiki Kaisha Co. (BdPatApp&Int) 225 USPQ 1260; and Ex parte Rachlin (BdPatApp&Int) 151 USPQ 56. See also Smith v. Hayashi, 209 USPQ 754 (Bd. of Pat. Inter. 1980) (However, there was evidence that both phthalocyanine and selenium were known photoconductors in the art of electrophotography. "This, in our view, presents strong evidence of obviousness in substituting one for the other in an electrophotographic environment as a photoconductor." 209 USPQ at 759.). An express suggestion to substitute one equivalent component or process for another is not necessary to render such substitution obvious. In re Fout, 675 F.2d 297, 213 USPQ 532 (CCPA 1982). "It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980)

(citations omitted). See also *In re Crockett*, 279 F.2d 274, 126 USPQ 186 (CCPA 1960); *Ex parte Quadranti*, 25 USPQ2d 1071 (Bd. Pat. App. & Inter. 1992). In addition, polyimide spacers are inherently resiliently compressible spacers.

Claims 18-21, 30, 31, 33-35 and 54 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Foster (6437449).

At column 1, lines 61-62; and column 2, line 59 to column 6, line 61, Foster discloses all of the claim limitations.

To further clarify, Foster discloses laterally spaced spacers 121/221 and 116/216 because each spacer arranges the devices 108, 140 with space between all sides of the devices.

Also, Foster discloses one spacer 116/216 of the spacers being in communication with a ground voltage " V_{ss} " plane 104 of the first device and the second device (via 124, 126).

Further, Foster discloses that the spacer 116/216 is secured to a contact pad 112 of the first device 108 via 124 and indirectly via 121, 128.

Claims 11, 22, 18-23, 25, 28, 30-35 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pu as applied to claims 18-23, 25, 28 and 30-35 in the previous Office action, and over Pu and LoBianco as applied to claims 1, 3, 5-8, 10, 12-17 and 53 supra, and further in combination with Foster (6437449).

Pu and LoBianco do not appear to explicitly disclose at least one spacer in communication with a ground or voltage reference plane of the first device, and establishing communication between the backs side of the second device and the ground or voltage plane.

Nevertheless, as cited *supra*, Foster discloses these limitations. Moreover, it would have been obvious to combine this disclosure of Foster with the disclosure of Pu and LoBianco because it would facilitate ground and voltage connection.

Claims 1, 3, 5-8 and 10-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Foster as applied under 35 U.S.C. 102(e) to claims 18-21, 30, 31, 33-35 and 54, and further in combination with LoBianco (6340846).

Foster does not appear to explicitly disclose that the spacer is resiliently compressible.

Notwithstanding, as cited *supra*, Foster discloses that the spacer is silicon. Moreover, as cited *supra*, LoBianco discloses that silicon spacers 50 and polyimide spacers 50 are alternatives and equivalents; therefore, it would have been obvious to substitute or combine the polyimide spacers of LoBianco for or with the silicon spacers of Foster. See *In re May* (CCPA) 136 USPQ 208 (It is our opinion that the substitution of Wille's type seal for the cement of Hallauer in Figure 1 would be obvious to persons of ordinary skill

in the art from the disclosures of these references, merely involving an obvious selection between known alternatives in the art and the application of routine technical skills.); In re Cornish (CCPA) 125 USPQ 413; In re Soucy (CCPA) 153 USPQ 816; Sabel et al. v. The Wickes Corporation et al. (DC SC) 175 USPQ 3; Ex parte Seiko Koko Kabushiki Kaisha Co. (BdPatApp&Int) 225 USPQ 1260; and Ex parte Rachlin (BdPatApp&Int) 151 USPQ 56. See also Smith v. Hayashi, 209 USPQ 754 (Bd. of Pat. Inter. 1980) (However, there was evidence that both phthalocyanine and selenium were known photoconductors in the art of electrophotography. "This, in our view, presents strong evidence of obviousness in substituting one for the other in an electrophotographic environment as a photoconductor." 209 USPQ at 759.). An express suggestion to substitute one equivalent component or process for another is not necessary to render such substitution obvious. In re Fout, 675 F.2d 297, 213 USPQ 532 (CCPA 1982). "It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980) (citations omitted). See also In re Crockett, 279 F.2d 274, 126 USPQ 186 (CCPA 1960); Ex parte Quadranti, 25 USPQ2d 1071 (Bd. Pat. App. & Inter.

1992). In addition, polyimide spacers are inherently resiliently compressible spacers.

Also, Foster discloses that the spacer is dielectric and/or insulative. Therefore, it would have been obvious to use the conventional polyimide spacer material as the spacer material of Foster because it would facilitate provision of the dielectric and/or insulative spacer of Foster.

Applicant's remarks filed 9-12-5 have been fully considered and are addressed supra and infra.

Applicant alleges that, "Claim 33 is further allowable because Foster includes no express or inherent description of a semiconductor device assembly that includes three or more semiconductor devices."

This allegation is respectfully traversed because, as cited at column 1, lines 61-62 and column 6, lines 58-61, Foster discloses a semiconductor device assembly that includes three or more semiconductor devices.

The art made of record and not applied to the rejection is considered pertinent to applicant's disclosure. It is cited primarily to show inventions relevant to the examination of the instant invention.

For information on the status of this application applicant should check PAIR:

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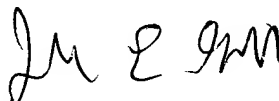
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Alternatively, applicant may contact the File Information Unit at (703) 308-2733. Telephone status inquiries should not be directed to the examiner. See MPEP 1730VIC, MPEP 203.08 and MPEP 102.

Any other telephone inquiry concerning this communication or earlier communications from the examiner should be directed to David E. Graybill at (571) 272-1930. Regular office hours:

Monday through Friday, 8:30 a.m. to 6:00 p.m.

The fax phone number for group 2800 is (571) 273-8300.

A handwritten signature in black ink, appearing to read "D E Graybill", is positioned above the printed name.

David E. Graybill
Primary Examiner
Art Unit 2822

D.G.

21-Nov-05